

**METHOD FOR H₂ RECYCLING IN
SEMICONDUCTOR PROCESSING SYSTEM**

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ABSTRACT OF THE DISCLOSURE

10 A system and method for conserving and/or recycling hydrogen used in processing
operations. The present invention can be used with any conventional reactor, which
supports semiconductor processes using hydrogen. Hydrogen is pumped into the reactor
from a hydrogen gas supply chamber. The hydrogen is used in the reactor as needed to
perform the process function. The hydrogen accompanied with other process gases is
exhausted from the reactor. The exhausted gases are routed through a scrubber, which is
used to separate the hydrogen from the other gases. The other gases are allowed to vent
15 from the system in a typical manner. The hydrogen is then pumped through an H₂
purifier, which cleans the hydrogen gas making the gas once again useable in the
semiconductor process.